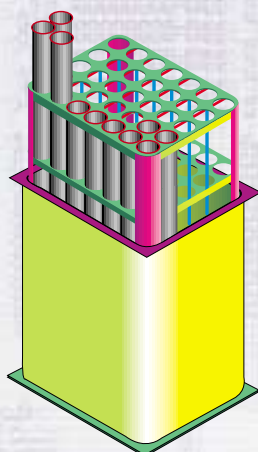
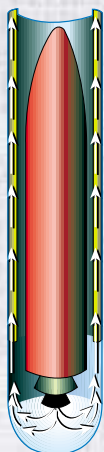


## Concentric Canister Launcher



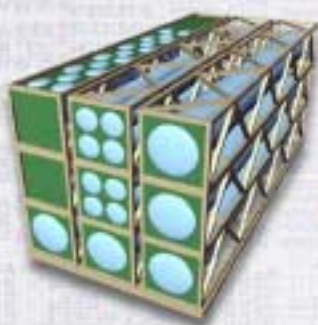
NAVAL SEA SYSTEMS COMMAND

# Advanced Launcher Concepts & Technologies

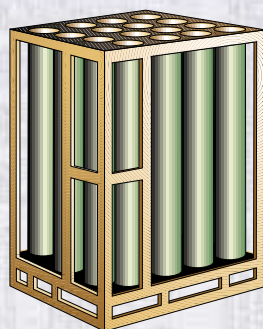
NAVAL SURFACE WARFARE CENTER



## Modular Horizontal Launcher System



## NetFires – Joint Warfighting Counterfire System



DAHLGREN DIVISION

DAHLGREN PANAMA CITY DAM NECK

*The affordability of weapons systems is a high priority across the Department of Defense (DoD). Naval Surface Warfare Center, Dahlgren Division (NSWCDD) is focused on next-generation launcher efforts that yield reduced manning, maintenance, and life-cycle costs. Under the sponsorship of the Office of Naval Research (ONR), Naval Sea Systems Command (NAVSEA) (Affordability Through Commonality), and Defense Advanced Research Projects Agency (DARPA), NSWCDD has formed the Advanced Launcher Concepts and Technology (ALCT) Team to address these warfighting benefits.*

*The cornerstone of the ALCT initiative is the Concentric Canister Launcher (CCL) program—an advanced launcher technology program focused on an open mechanical and electrical architecture that will be applicable to new and existing launchers. Other ALCT Team initiatives include the Modular Horizontal Launcher System (MHLS), the ESSM (Evolved SEASPARROW Missile) Missile Launching System (EMLS), and the NetFires - Joint Warfighting Counterfire System (NetFires-JWCS). The ALCT initiative is centered around technologies and concepts for multimission and multiple platform applications for surface combatants, submarines, aircraft carriers, LHDs, LCACs, and joint service platforms such as HMMWV (HumVees).*

## Technology Innovations

Some of the advanced technologies being developed at NSWCDD include:

- Distributed electronic architecture
- Self-contained gas management system
- Advanced materials for canister and module design
- Commercial off-the-shelf (COTS) and nondevelopment items (NDI)
- Physics-based models for launcher design and performance predictions

## ALCT Initiatives

Current ALCT initiatives include the development, analysis, and testing of several types of launchers, including:

- CCL – an ONR technology program designed to define and demonstrate the next generation of open architecture (mechanical/electrical) launcher technologies to reduce life-cycle costs and manning requirements.
- MHLS – an application of distributed electronic and gas management technologies developed under CCL for payloads other than vertically launched large missiles.
- NetFires-JWCS – application of technologies developed and demonstrated under the ONR Air & Surface Weapons Technology (ASWT) program to a remote, organic, forward-deployed counterfire and precision strike system. The NetFires-JWCS initiative is being performed in conjunction with the DARPA/Army NetFires Program to develop a Joint Fire Support System. The NetFires-JWCS team is working closely with Army, Marine Corps, DARPA, and the NetFires contractors to develop a common expeditionary launcher system applicable to land-based and sea-based platforms.
- EMLS – an application of launcher technologies for ESSM launch from aircraft carriers.

## Warfighter Benefits

ALCT is focused on the following areas that would benefit future DoD systems:

- Reduced operating and support costs
- Reduced life-cycle costs
- Reduced launcher maintenance and planning
- Increased shipboard shock and fire survivability
- Platform weight savings
- Reduced new weapon integration costs
- Reduced new platform production costs
- Firing rate independent of launcher



## Application Areas

ALCT will support the following areas:

- Strike Warfare
- Land Attack Warfare
- Anti-Air Warfare (AAW)
- Ship Self-Defense
- Undersea Warfare (USW)
- Joint Military Initiatives
  - Naval Fire Support (NFS)
  - Extending Littoral Battlespace (ELB)
  - NetFires - Joint Warfighting Counterfire System (NetFires-JWCS)



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For additional information, please contact:

**NSWCDD Public Affairs**

(540) 653-8153

WWW: [nswc.navy.mil](http://nswc.navy.mil)

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